PROSPECTUS
FOR

MOUNT TENA CREEK MITIGATION BANK

LOCATED IN

FAYETTE COUNTY, TENNESSEE

DUCKS UNLIMITED, INC.
SOUTHERN REGIONAL OFFICE

DATE: 26 November 2012

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Mount Tena Creek Mitigation Bank Prospectus

Ducks Unlimited, Inc., as the sole sponsor, proposes to establish the Mt. Tena Creek Mitigation Bank. The sponsor's mailing address is:

Ducks Unlimited, Inc.
One Waterfowl Way
Memphis, TN 38120

The contact for Ducks Unlimited:

Eric Held
Office: 601-206-5446
Mobile: 601-260-7556
Email: eheld@ducks.org

Project Location:

The proposed wetland mitigation bank is located east of Bateman Road approximately 2.5 miles south of TN Route 57 in unincorporated Fayette County, Tennessee as shown in Figure 1 in the Wolf River basin. The coordinates for the project entrance are: 35°01'08"/-89°20'47".

Per 33CFR 332.8(d)(2) the prospectus provides an overview of the proposed mitigation bank and is the basis for public and Interagency Review Team (IRT) initial comment. The prospectus must provide a summary of the information on a proposed mitigation bank at a sufficient level of detail to support informed public and IRT comment.

Information required under 332.8(d)(6) will be submitted after evaluation of this prospectus is complete. This includes information concerning: the basis for the mitigation banks proposed service area; accounting procedures; provisions stating that legal responsibility for providing the compensatory mitigation lies with the sponsor once a permittee secures credits from the sponsor; default and closure provisions; reporting protocols; and other information deemed necessary by the district engineer. In addition a mitigation plan including the specific information required in 332.4(c)(2)-(14) will be provided along with a credit release schedule, which is tied to achievement of specific milestones.

(i) Objectives

The Mt. Tena Creek Mitigation Bank (MTCMB) will provide habitat suitable for compensation of losses of the waters of the United States, including wetlands, in southwestern Tennessee. 67± acres of currently cultivated or recently fallowed crop fields will be re-established to bottomland hardwood habitat. An additional 12± acre upland area complementary to these bottomland hardwood habitats will also be reforested, monitoring will determine whether bottomland hardwood habitat or an upland forested buffer is established on these upland acres. 38± acres of existing early successional bottomland hardwood habitat will be preserved. The remaining acreage of the 160± acre tract is not included in the proposed MTCMB.

These areas are located in mapped Falaya fine sandy loam and Falaya silt loam soils, with some sandy alluvial deposits. The areas to be restored are currently cultivated or recently fallowed crop fields, which have been altered to allow agricultural production (diversions, ditching and access roads). These alterations have left the site degraded from its original wetland condition.

(ii) Establishment and Operation

Restoration of the MTCMB will be completed through five tasks. (1) An existing elevated access road which obstructs sheet flow will be removed. (2) Several drainage ditches located throughout the tract will be plugged and/or filled. (3) The hillside diversion across the south portion of the tract will be breached. (4) Runoff from the immediately upstream floodplain which is currently diverted into Mt. Tena Creek will be allowed to continue across the floodplain. (5) Finally, the current and recently fallowed crop fields will be reforested with appropriate bottomland hardwood species.

Upon release, credits will be available for DU to transfer to parties to satisfy compensatory mitigation requirements under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and other activities authorized by the Department of Army. Released credits will also be available to fulfill mitigation requirements for Tennessee Aquatic Resource Alteration Permits and Section 401 Water Quality Certifications issued by the Tennessee Department of Environmental Conservation.

The proposed MTCMB will be established as a private entrepreneurial bank. Ducks Unlimited, Inc. (DU) will be the sponsor and conduct (with DU staff or subcontractors) all activities necessary to gain of approval of and subsequently establish, implement, operate and manage the MTCMB and sell all resulting generated credits. At the end of the monitoring period and upon approval, the mitigation bank will be closed and placed into long term stewardship with an appropriate long term funding mechanism in place.

The following attachments provide detailed information regarding the bank establishment and operation:

Figure 2A – 2012 NAIP Satellite Image
Figure 2B – 2008 TN 1ft Image
Figure 2C - 1990s DOQQ Image
Figure 3 – Existing Features
Figure 4 – Compensatory Mitigation
Figure 5A – Restoration Features
Figure 5B – Restoration Details

(iii) Proposed Service Area

The Mount Tena Creek Mitigation Bank is located within the Wolf River 8-Digit Hydrologic Unit (08010210). The service area for the MTCMB is the portions of the Wolf River (08010210) and Nonconnah Creek (08010211) basins within the State of Tennessee, and the adjacent Loosahatchie River (08010209) basin. As required by 332.8(d)(6)(A) the draft instrument will explain in detail the basis for the mitigation banks proposed service area.

See Figure 6 – Proposed Service Area.

(iv) General Need and Technical Feasibility

General Need

The Wolf River watershed has been identified in the Tennessee Wildlife Action Plan as "very high" and "high" priority for terrestrial and aquatic species of greatest conservation need. Its importance for terrestrial species is primarily due to its relatively intact forested wetland habitats. The West Tennessee Wildlife Resources Conservation Plan calls for the establishment of an additional 130,614 acres of bottomland hardwoods in the East Gulf Coastal Plain portion of Tennessee, including the conservation and management of forested wetlands in the floodplain of the Wolf River.

Population growth and urban sprawl is a major threat to the wetland habitats of the Wolf River watershed. The population of Fayette County is projected to increase nearly 50% in the next 20 years, putting additional pressure on the wetland habitats of the region (CBER, 2012). The existing wetland mitigation bank in the Wolf River watershed has sold all of its generated credits.

The Wolf River Watershed Water Quality Management Plan was developed by Tennessee Department of Environment and Conservation in 1998 and updated in 2005. The watershed management plan identifies multiple threats to water quality within the Wolf River watershed, including non-point source pollution. The tributary streams present on the MTCMB have not been assessed, but the streams located immediately upstream and downstream of MTCMB on the Wolf River have been listed as impaired on the approved 2008 and 2010 303(d) listing. These streams are listed as impaired for excessive nitrates and bacterial contamination due to riparian

grazing. The water quality management plan identifies sedimentation, excess nutrients, low dissolved oxygen and habitat alteration as impairments which are present in the Wolf River watershed. Restoration of bottomland hardwood habitat has been identified as an activity which will assist in addressing the issues leading to the impairment of waters within the Wolf River watershed.

The Wolf River Headwaters Conservation Initiative, a partnership between the TWRA, Wolf River Conservancy (WRC), USACE and others has resulted in the acquisition of approximately 6,000 acres which are now managed as the Wolf River Wildlife Management Area and Ghost River State Natural Area. The MTCMB is complementary to this project in that it restores bottomland hardwood habitat adjacent to the Ghost River State Natural Area.

Technical Feasibility

This project is a continuation of Ducks Unlimited's focus on the restoration and permanent protection of bottomland hardwood habitat throughout the Lower Mississippi Alluvial Valley. Conversion of bottomland along the Wolf River for agricultural purposes has reduced the ability of this and other sites to provide not only wildlife habitat but other valuable wetland functions. The MTCMB site is a unique opportunity to restore wetland function to a section of bottomland and add to a large block of conservation lands which is a regional and local priority as discussed above.

Detailed topography was obtained by Ducks Unlimited engineering staff in April 2012, which will be used to layout the restoration features. The general topography of the site will allow full restoration to occur without impacting adjoining landowners. Lands to the east are separated hydrologically from the project site by Mount Tena Creek. Lands to the west are separated by Bateman Road whose fill and associated drainage hydrologic separates those lands to the west from the project site. Lands to the south are higher elevation and will not be impacted by restoration activities. Lands to the north are conservation lands managed by the TN Department of Environmental Conservation and TN Wildlife Resources Agency. The proposed work will only have positive impacts upon these lands such as attenuation of runoff, sediment and nutrient cycling, etc.

Ducks Unlimited plans to restore, manage and monitor the bottomland hardwood habitat on the MTCMB according to the publication "*Restoration, Management and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat"* by the Lower Mississippi Valley Joint Venture (LMVJV). This publication was developed by multiple private, state and federal foresters, biologists and researchers and contains recommendations designed to achieve and maintain habitat conditions in mixed species bottomland hardwood forest communities for multiple wildlife species.

The primary threat to forested habitat in the area is fragmentation of ownership and clearing for increased development. The long term protection of the project site will ensure threats associated with clearing will not be an issue. The long term protection will also ensure that the project site is essentially added to the much larger block of conservation lands associated with the Ghost Wolf River Wildlife Management Area and Ghost River State Natural Area.

(v) Ownership and Long Term Management

Wetlands America Trust (WAT), Ducks Unlimited's wholly owned subsidiary, has secured the MTCMB site. Upon approval of the mitigation bank instrument the site will be encumbered with a perpetual conservation easement held by the Wolf River Conservancy.

Upon successful completion of the restoration it is anticipated that WAT will transfer fee title to the state of Tennessee as an addition to the Ghost River State Natural Area or Wolf River Wildlife Management Area, making the site available for public use and connecting two currently dis-contiguous tracts.

If the State of Tennessee will not accept the long term ownership and/or management the sponsor will retain this responsibility or identify another acceptable conservation manager. Both DU and WAT are Accredited Land Trusts, which ensures that land protection and management efforts undertaken by DU/WAT are permanent and completed according to a set of nationally recognized standards for excellence.

(vi) Sponsor

Ducks Unlimited, Inc. (DU) will be the sponsor of the Mount Tena Creek Mitigation Bank and will be entirely responsible for its operation. DU is a non-profit wetlands conservation organization based in Memphis, TN. DU's mission is to conserve, restore and manage wetland habitats across North America for the benefit of waterfowl, other wildlife and people. Since 1937, DU has conserved over 12 million acres of wetlands and associated habitats across North America.

DU's team of over 200 conservation professionals; consisting of engineers, ecologist, foresters, biologists and technicians; delivers a highly effective wetland conservation program that has performed turnkey wetland restoration projects throughout the United States. In addition DU is one of the largest accredited land trusts in the nation. Accreditation by the Land Trust Accreditation Council ensures that DU has standards and practices in place which ensure its land conservation efforts are permanent and meet national standards for excellence.

DU's Southern Regional office will be primarily responsible for MTCMB. The Southern Region employs nine registered professional engineers and nine engineering technicians who focus solely on the design and oversight of wetland habitat restoration and enhancement projects. These 18 staff members have an unparalleled breadth of experience in the specific field of wetland restoration planning, design and construction across the southeastern United States. Numerous federal and state resource management agencies rely on DU Southern Region's

technical expertise to deliver tens of thousands of acres of wetland restoration and enhancement activities on an annual basis. For example, from 1998 to 2010 the USDA – NRCS relied upon DU to deliver the hydrologic restoration and reforestation of over 270,000 acres of primarily bottomland hardwood habitat on Wetland Reserve Program easements across the southeastern United States.

DU is also sponsor of three in-lieu fee program across the US (MS Delta In-Lieu Fee Program, Vermont Statewide In-Lieu Fee Program, and NY In-Lieu Fee Program). These programs are among the first new in-lieu fee programs approved under the 2008 compensatory mitigation regulations.

(vii) Other Information

(A) Ecological Suitability

The site is currently utilized primarily for agricultural purposes.

1. *Habitat Classifications.*

   Based upon the results of field inspections the habitat on the MTCMB is summarized below.

   See Figure 7 – Existing Habitat Conditions.

Habitat Type	Classification	Acres
Early Successional Bottomland Hardwood	PFO1	42±
Low Lying Cropland	Pf	63±
Total Aquatic Habitats		**105**±
Upland Cropland	--	12±
Total Non-Aquatic Habitats		**12**±

2. *Typical Vegetation:* The following vegetation was present in the aquatic habitat areas during preliminary field inspections conducted by DU.

   a) The early successional bottomland forested habitat was characterized by black willow, green ash, river birch, iron wood, buttonbush, and a variety of other herbaceous components (shrubs, vines, forbs, sedges, etc.)

   b) The low lying cropland is currently in production and was characterized by corn stubble and buttercup, nutsedge, wild-rye grass, curly dock, field garlic and nightshade.

3. *Surrounding Land Use.*

The surrounding land uses are primarily forest and pasture, a percentage of agricultural croplands, with minimal developed areas. Immediately adjacent to MTCMB is the Ghost River State Natural Area and Wolf River Wildlife Management Area. Together nearly 6,000 contiguous acres, they are primarily located within the floodplain of the Wolf River and its tributaries and contain bottomland hardwood habitat.

4. *Soils.*

a) The USDA Soil Survey has mapped soils on the MTCMB as primarily Falaya fine sandy loam (Fa) and Falaya silt loam (Fm), with some sandy alluvial deposits (Sa). Both Falaya associations are rated as partially hydric soils. The Falaya soils are described as being floodplain soils that are frequently associated with moist bottomland hardwood forests and low lying, poorly drained cropfields. Inclusions of hydric Waverly soils can occur within Falaya. Sandy alluvial land which is overwash from intermittent streams or rivers, are frequently encountered in floodplains of the region.

See Figure 8 – USDA Soils Map.

b) During preliminary field inspections conducted by DU 22 shallow soil profiles were inspected. Throughout the site 19 of the 22 profiles met hydric soil criteria. The remaining 3, all located on a slight ridge composed of sandy overwash, did not meet hydric criteria.

5. *Hydrologic Characteristics.*

a) The MTCMB lies within the floodplain of the Wolf River at the confluence of Mount Tena Creek. The MTCMB lies to the west of the channelized Mount Tena Creek. A diversion levee has been constructed along the west bank of Mount Tena Creek, which restricts access of typical overbank flows to the floodplain located to the west of Mount Tena Creek. The direct contributing watershed for the MTCMB is approximately 410 acres. The portions of this watershed upstream of MTCMB are all on a farm operated by a single operator and owned by a single family. The larger contributing drainage area for Mount Tena Creek located upstream of the MTCMB is approximately 7,600 acres. The overall contributing drainage area for Wolf River upstream of MTCMB is approximately 250 square miles.

Figure 9 – MTCMB Contributing Watersheds

b) Several hydrologic alterations have occurred on the property (*See Figure 3)*:

(1) A hillside diversion was constructed along the south boundary of the MTCMB which ties into the Bateman Road ditch at the southwest corner of the property. This diversion captures flows from upstream and prevents them from entering the floodplain.

(2) The access road constructed from Bateman Road into the property restricts sheet flow across the property.

(3) Several ditches have been constructed across the site which collects sheet flow, concentrates it and allows it to exit the tract more rapidly.

(4) Mount Tena Creek was channelized and a levee constructed along its west bank channel its flows into Wolf River. This work combined with upstream erosion which has exposed unconfined sand deposits has created the valley plug which created the Ghost River (Diehl, 1994.) Any efforts to restore Mt. Tena Creek and allow its flows to spread across the floodplain will jeopardize the stability of the valley plug potentially draining the Ghost River area (Diehl, Personal Communication.)

c) Despite these alterations during preliminary field inspections conducted by DU all sample points, except those located on the slight ridge created by sandy overwash, had multiple primary and secondary indicators of wetland hydrology resulting from rainfall, direct runoff and seepage from adjacent upland areas.

(B) Water Rights.

Tennessee is a riparian & common law state. Under riparian law, a land owner has the right to "reasonable" use of the water flowing past his property subject to the equal rights of other adjacent landowners. Water used, but not consumed, must be returned to the watercourse without impairing its quality. Diverting water from the drainage area of the watercourse without return flow is deemed unreasonable and forbidden if a downstream riparian landowner complains. All proposed restoration activities at the MTCMB would improve the quality of waters passing through the project. TDEC, which would be a signatory to the instrument approving the proposed MTCMB, is the downstream riparian owner. It is not anticipated any of the restoration activities proposed, which would increase the aquatic resource functions not only of the proposed MTCMB but also to aquatic habitats located on the Ghost River State Natural Area, would be objectionable to TDEC.

Proposed Credit Yield:

Restoration (Re-establishment) of prior converted cropfields – 1 to 1
Wetland Establishment – 1 to 1 upon meeting performance standards (current upland buffer)
Upland Buffer Establishment – 1/10 to 1
Preservation – 1/10 to 1

Conclusion:

The approval of the MTCMB for use as compensatory mitigation in Southwest Tennessee represents an opportunity to target mitigation for authorized impacts to aquatic resources in a location that provides benefits beyond the actual mitigation project. The proposed restoration activities on the MTCMB will add to the aquatic habitat functions on the Wolf River State Natural Area and Wildlife Management Area. The project will also increase the complex of bottomland hardwood habitat present in Fayette County along the Wolf River. This landscape was identified as a priority for conservation action in Tennessee's Wildlife Action Plan and will help meet the goals set in the West Tennessee Wildlife Resources Conservation Plan.

References:

Center for Business and Economic Research, 2012. Population Projections for Tennessee and Counties by Gender and Age Group, 2015-2040. Center for Business and Economic Research, College of Business Administration, The University of Tennessee – Knoxville: accessed online http://cber.bus.utk.edu/.

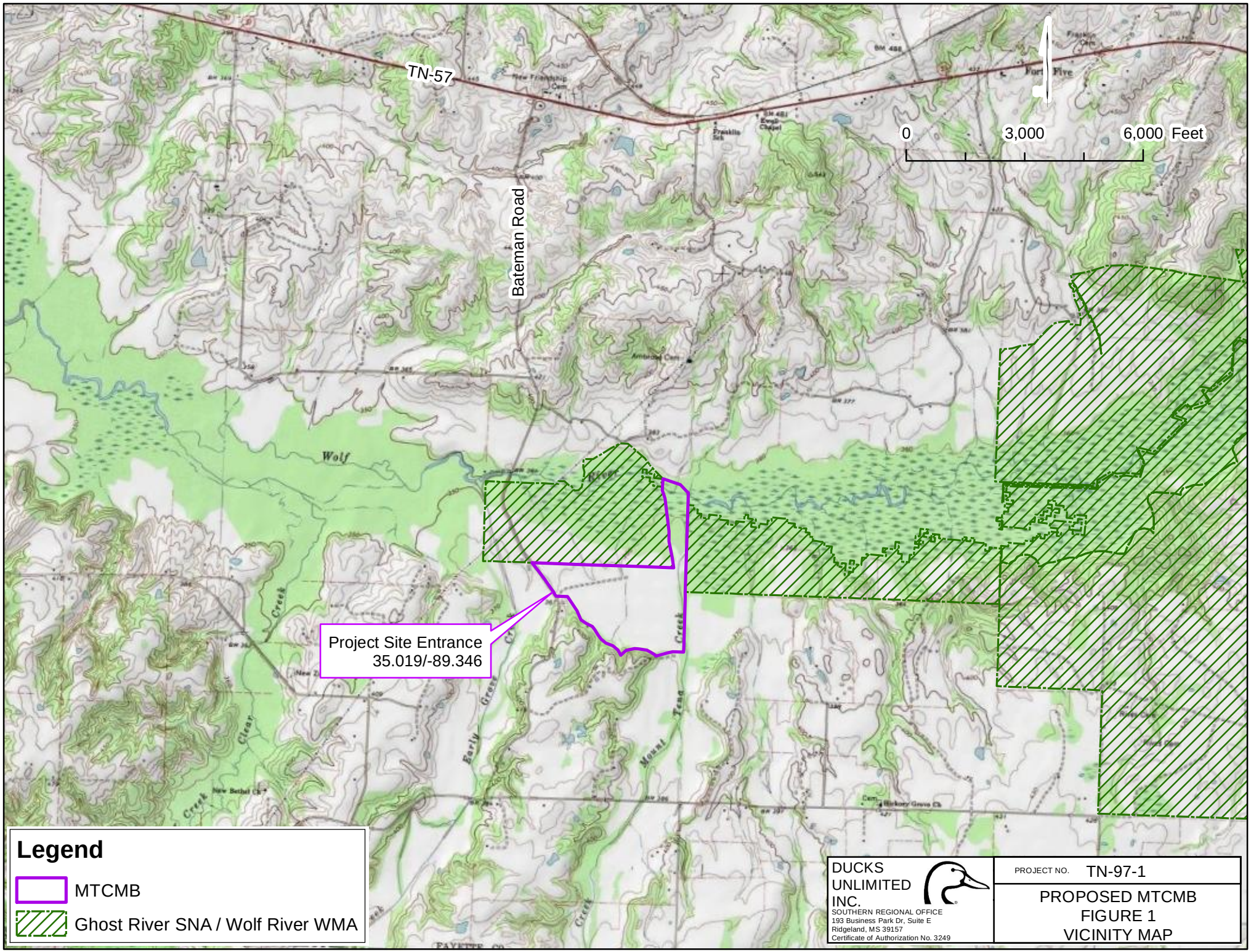
Diehl, T.H., 1994. Causes and effects of valley plugs in West Tennessee, *in* Sale, M.J., and Wadlington, R.O., eds., Symposium on Responses to Changing Multiple-Use Demands; New Directions for Water Resources Planning and Management, Nashville, Tenn., April 17-20, 1994.

Tennessee Wildlife Resources Agency, 2005. Tennessee's Comprehensive Wildlife Conservation Strategy.

Tennessee Wildlife Resources Agency, 2004. West Tennessee Resource Conservation Plan.

Tennessee Department of Environment and Conservation, 2005. Wolf River Watershed of the Mississippi River Basin: Watershed Water Quality Management Plan.

Figures


TN-57
Bateman Road
0
3,000
6,000 Feet
Wolf
River
Project Site Entrance
35.019/-89.346
Legend
MTCMB
Ghost River SNA / Wolf River WMA
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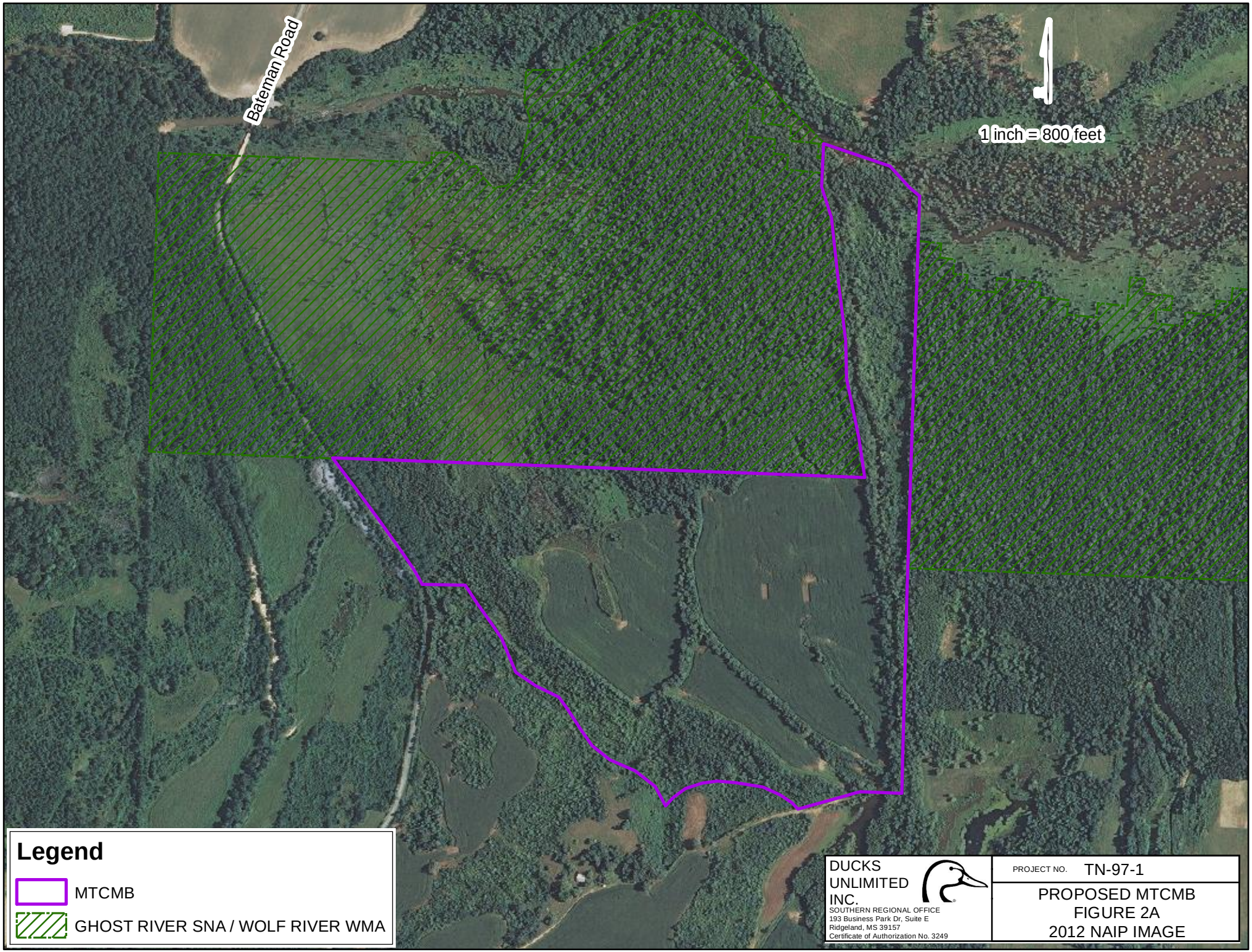
193 Business Park Dr, Suite E
Ridgeland, MS 39157
Certificate of Authorization No. 3249
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 1
VICINITY MAP


Bateman Road
1 inch = 800 feet
Legend
MTCMB
GHOST RIVER SNA / WOLF RIVER WMA
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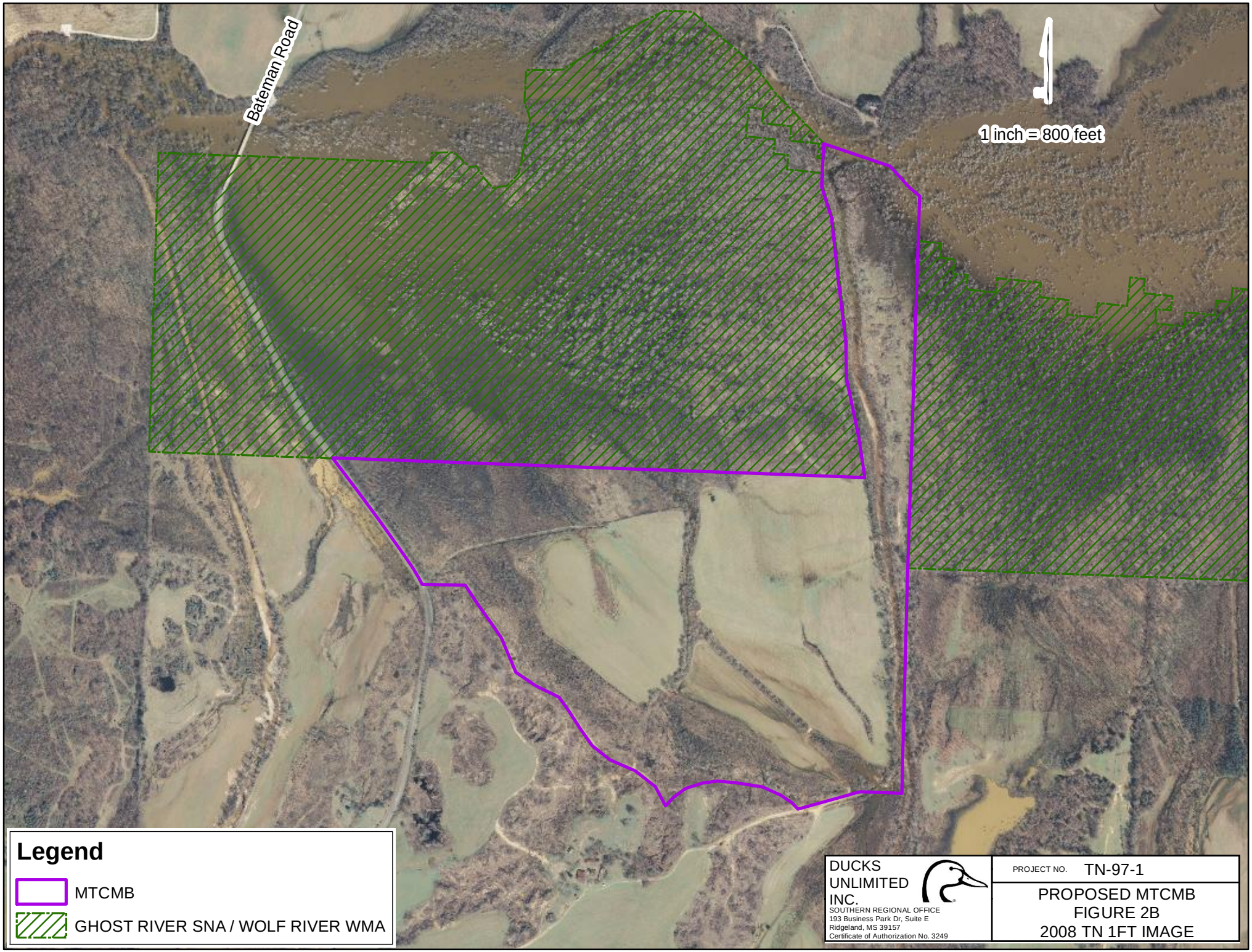
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 2A
2012 NAIP IMAGE


Bateman Road
1 inch = 800 feet
Legend
MTCMB
GHOST RIVER SNA / WOLF RIVER WMA
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SOUTHERN REGIONAL OFFICE
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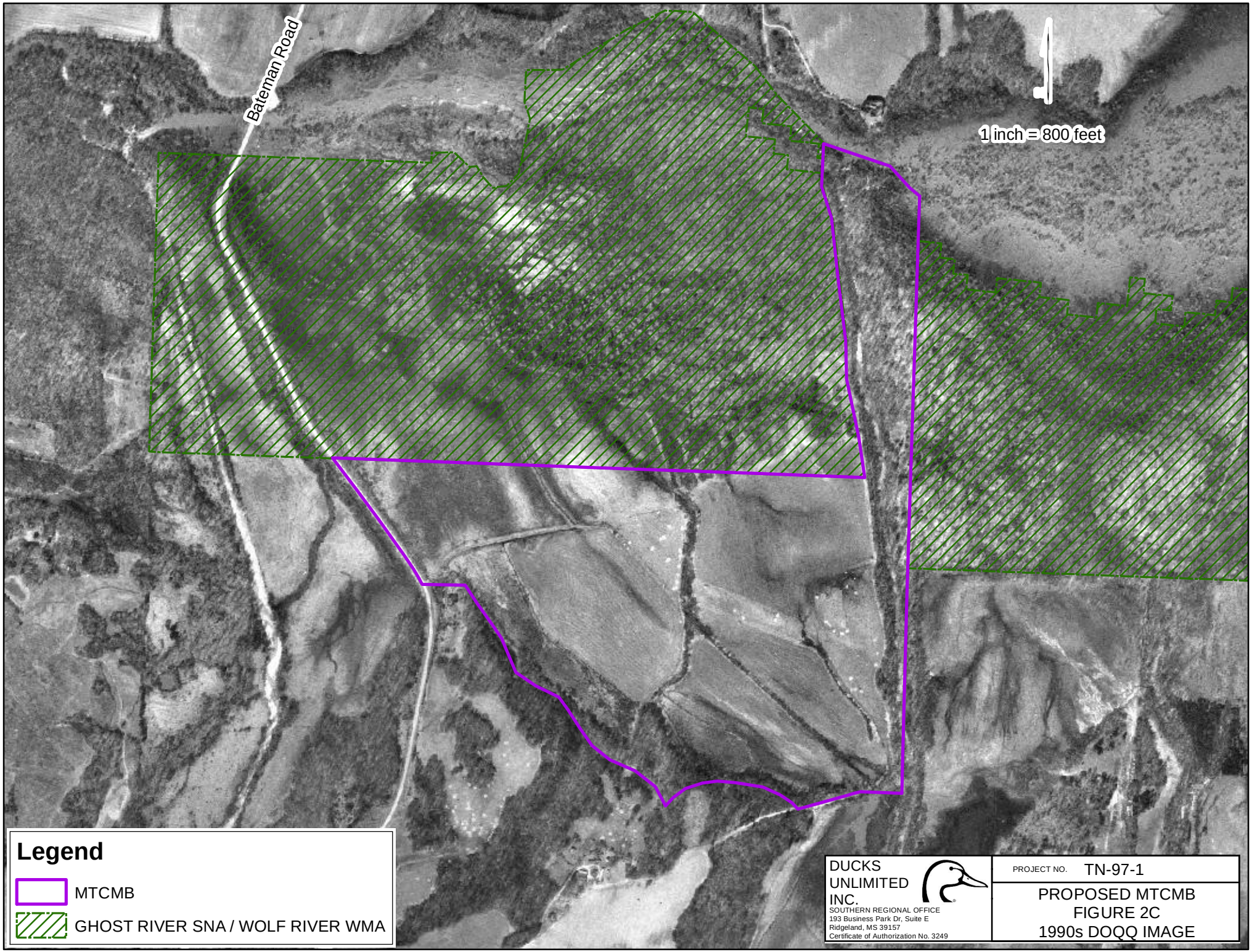
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 2B
2008 TN 1FT IMAGE


Bateman Road
1 inch = 800 feet
Legend
MTCMB
GHOST RIVER SNA / WOLF RIVER WMA
DUCKS UNLIMITED INC.
SOUTHERN REGIONAL OFFICE
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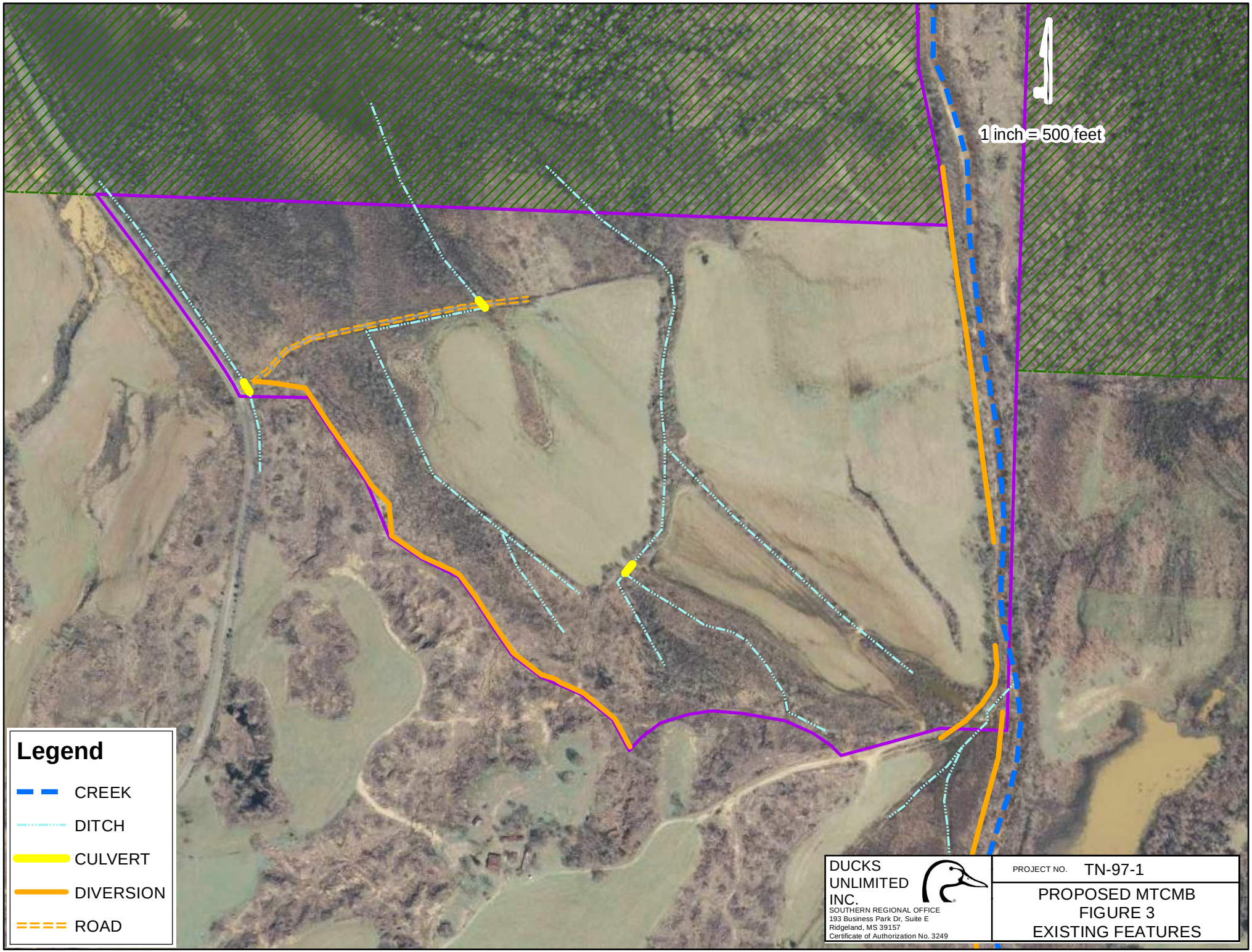
PROPOSED MTCMB
FIGURE 2C
1990s DOQQ IMAGE


1 inch = 500 feet
Legend
CREEK
DITCH
CULVERT
DIVERSION
ROAD
DUCKS UNLIMITED INC.
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193 Business Park Dr, Suite E
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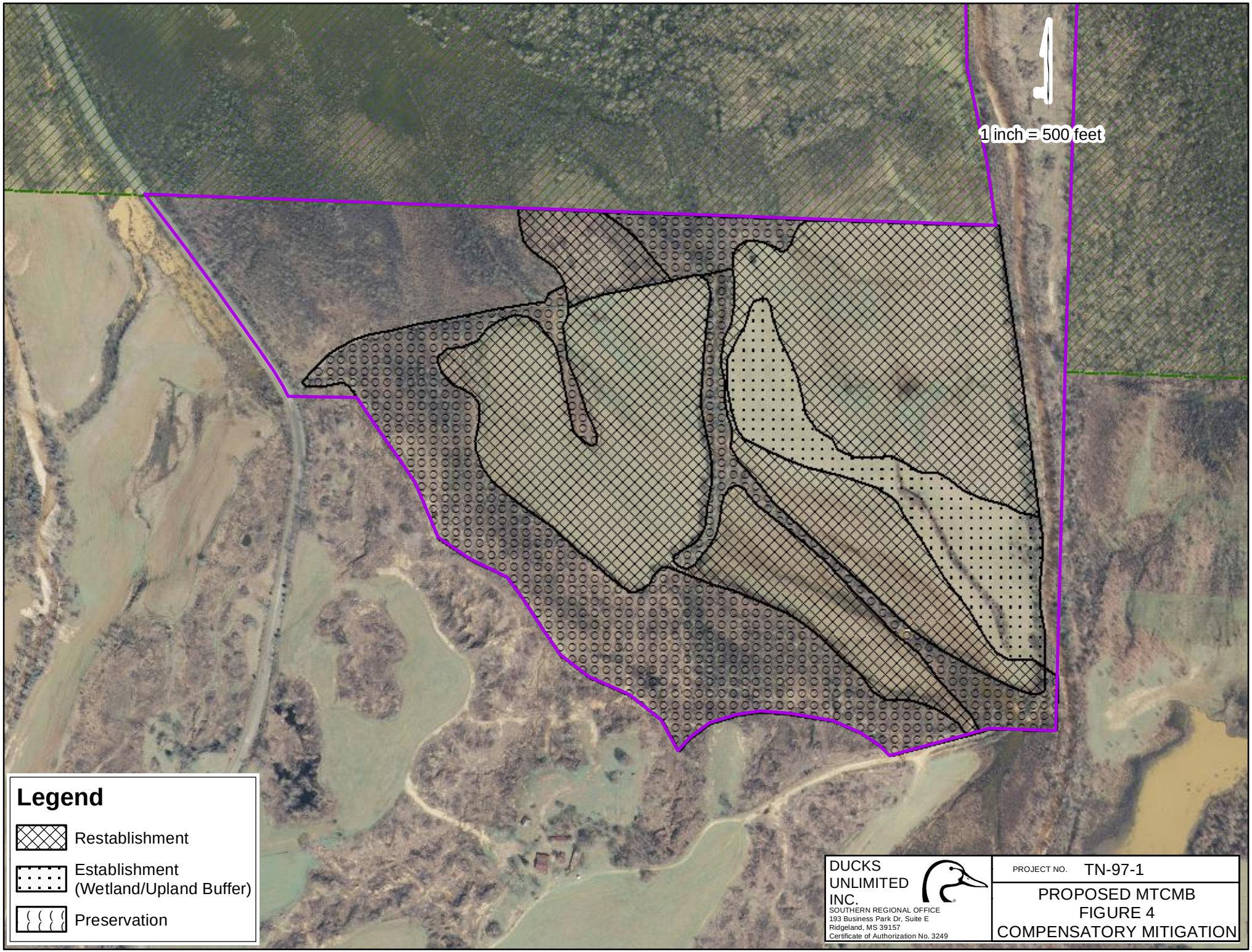
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 3
EXISTING FEATURES


1
1 inch = 500 feet
Legend
Restablishment
Establishment
(Wetland/Upland Buffer)
Preservation
DUCKS
UNLIMITED
INC.
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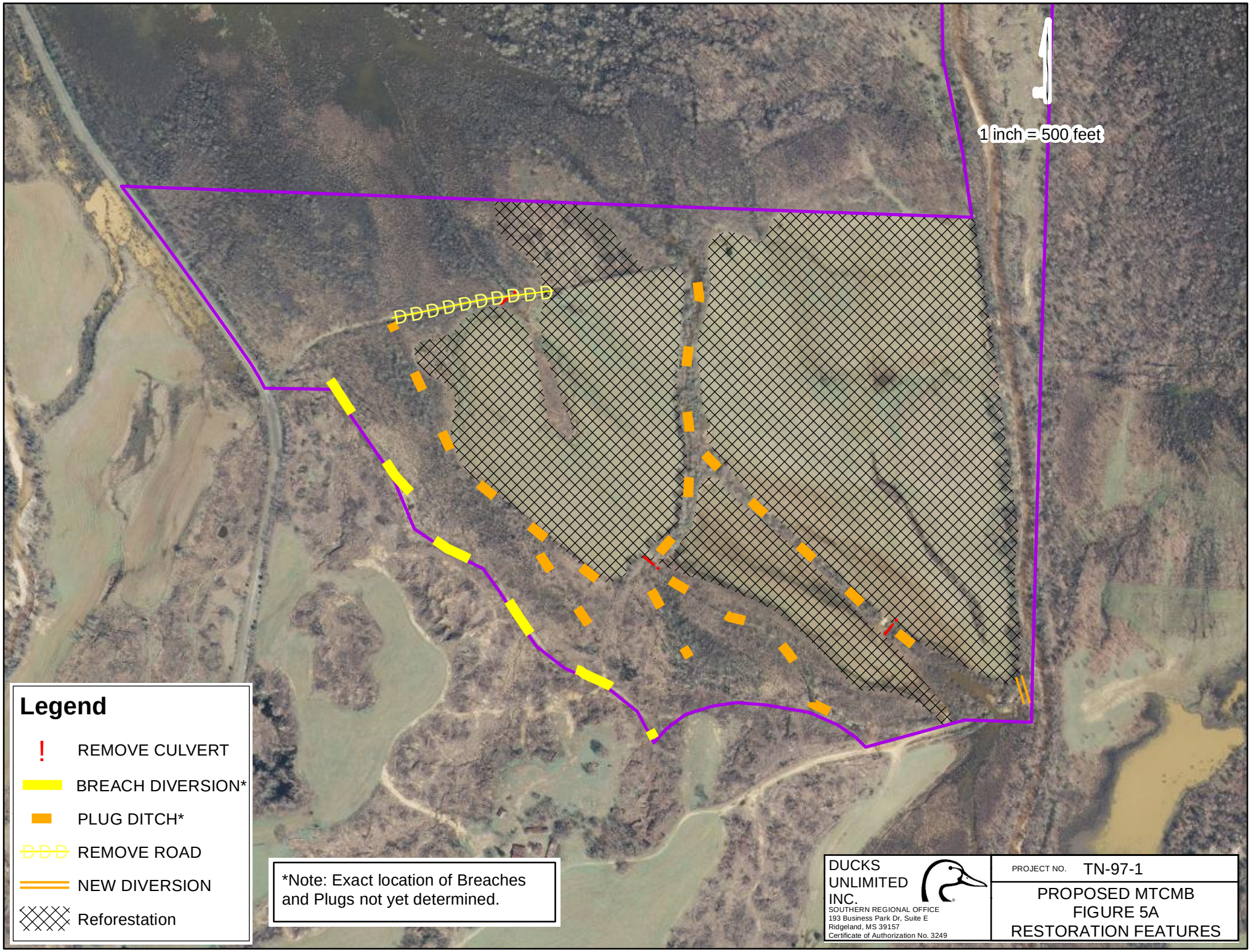
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 4
COMPENSATORY MITIGATION


1 inch = 500 feet
Legend
REMOVE CULVERT
BREACH DIVERSION*
PLUG DITCH*
REMOVE ROAD
NEW DIVERSION
Reforestation
*Note: Exact location of Breaches and Plugs not yet determined.
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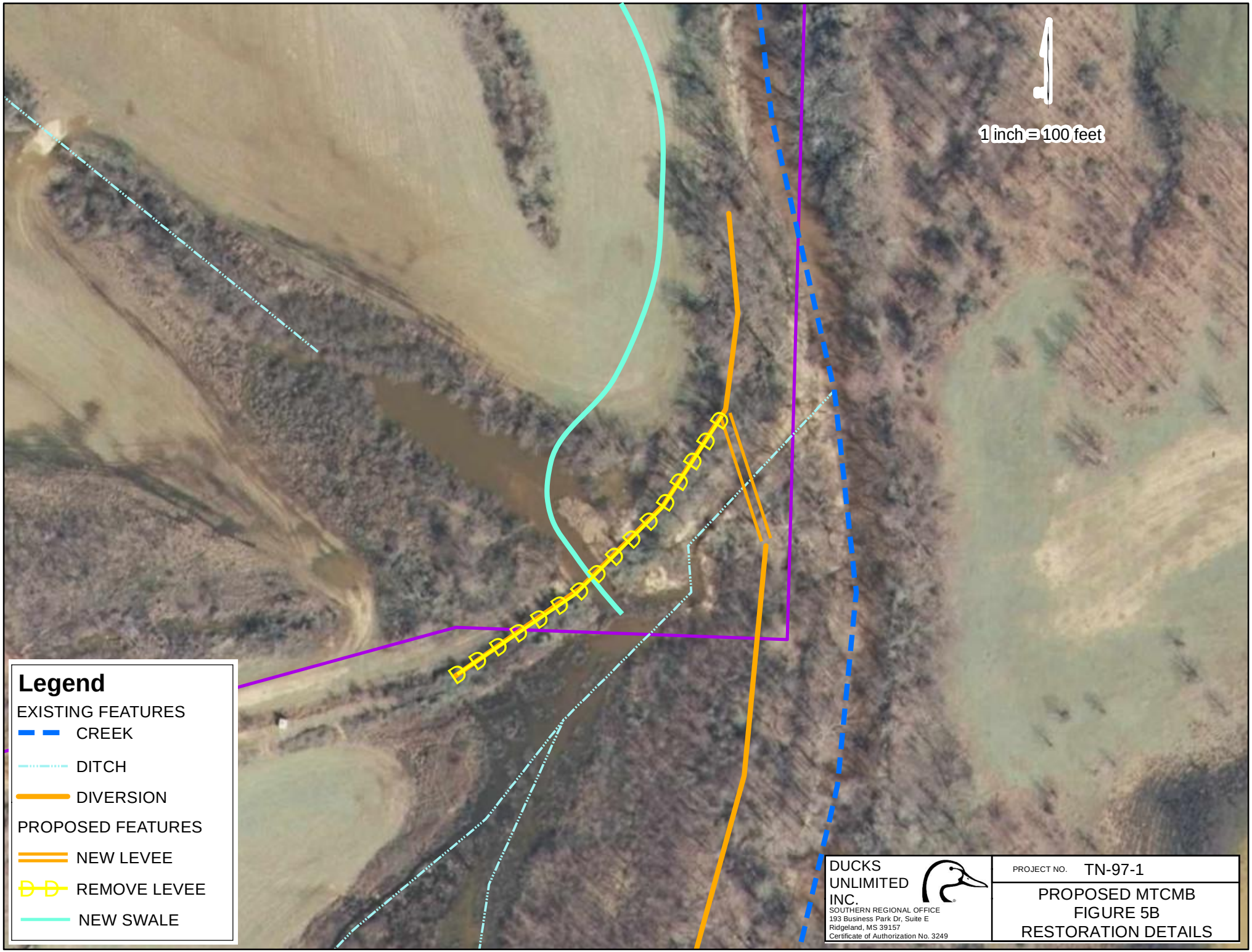
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 5A
RESTORATION FEATURES


1 inch = 100 feet
Legend
EXISTING FEATURES
CREEK
DITCH
DIVERSION
PROPOSED FEATURES
NEW LEVEE
REMOVE LEVEE
NEW SWALE
DUCKS UNLIMITED INC.
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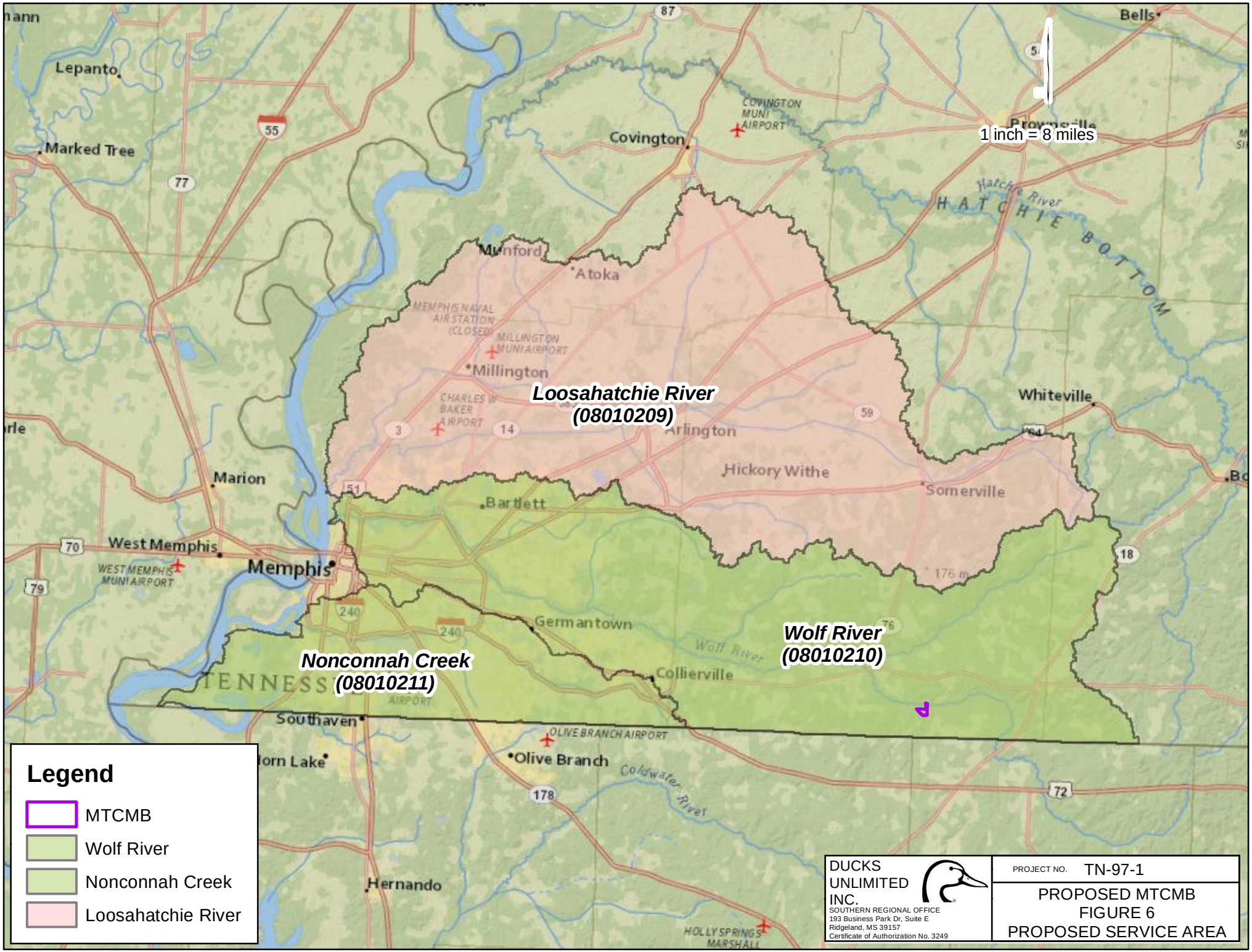
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 5B
RESTORATION DETAILS


1 inch = 8 miles
Loosahatchie River
(08010209)
Wolf River
(08010210)
Nonconnah Creek
(08010211)
Legend
MTCMB
Wolf River
Nonconnah Creek
Loosahatchie River
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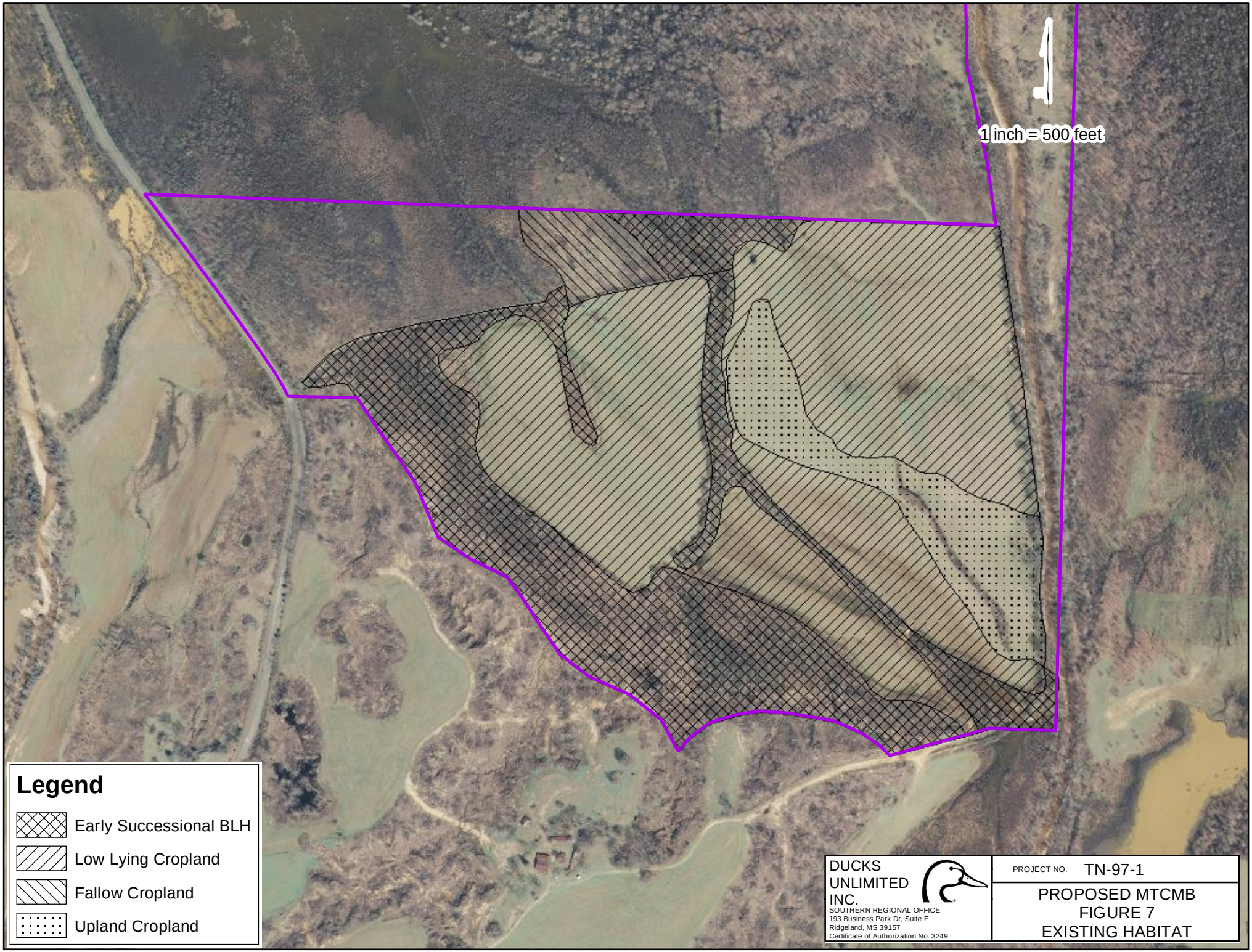
PROJECT NO. TN-97-1
PROPOSED MTCMB
FIGURE 6
PROPOSED SERVICE AREA


1
1 inch = 500 feet
Legend
Early Successional BLH
Low Lying Cropland
Fallow Cropland
Upland Cropland
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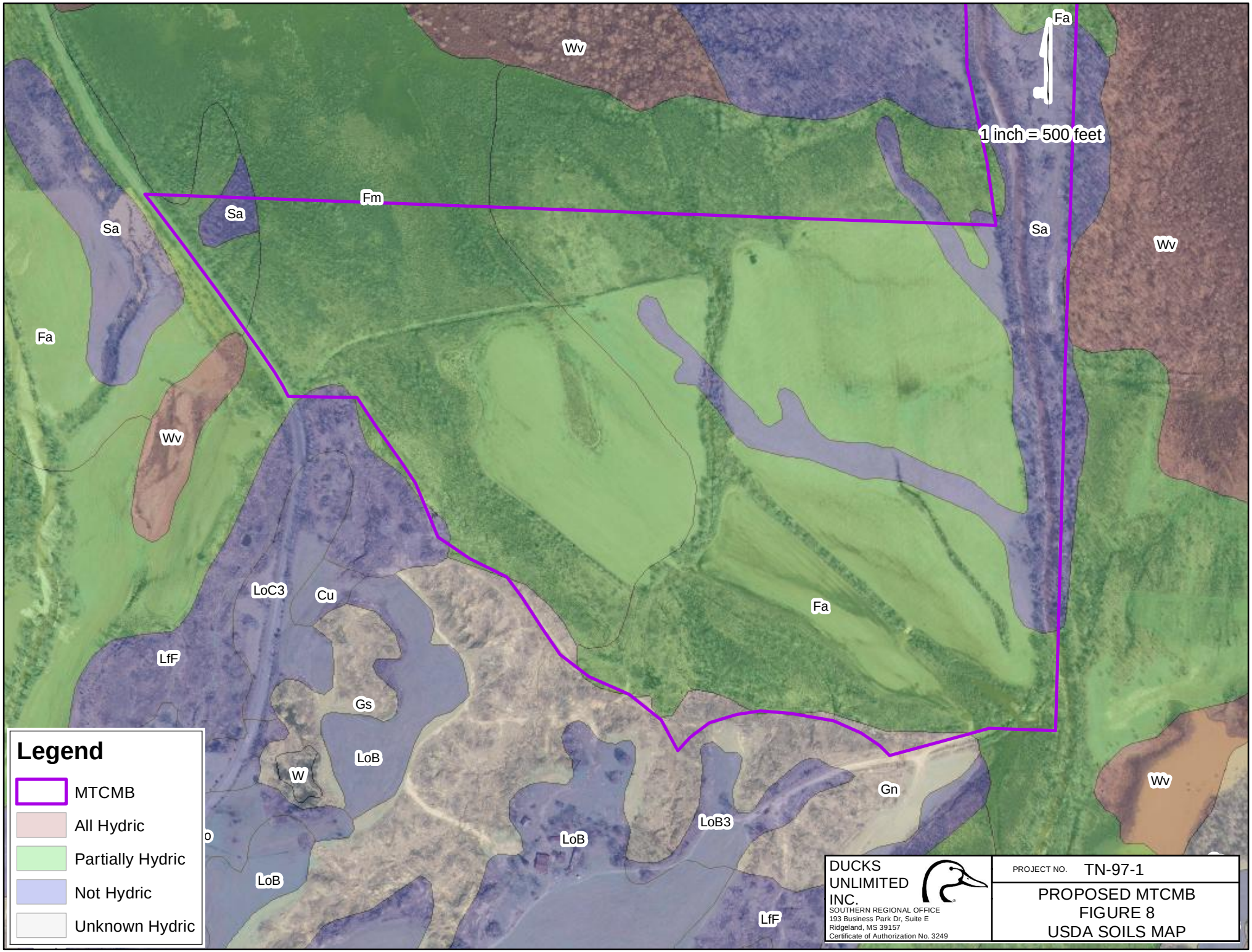
PROPOSED MTCMB
FIGURE 7
EXISTING HABITAT


Fa
1 inch = 500 feet
Wv
Fm
Sa
Sa
Sa
Wv
Fa
Wv
LoC3
Cu
Fa
LfF
Gs
LoB
W
Gn
Wv
LoB3
LoB
LoB
LfF
Legend
MTCMB
All Hydric
Partially Hydric
Not Hydric
Unknown Hydric
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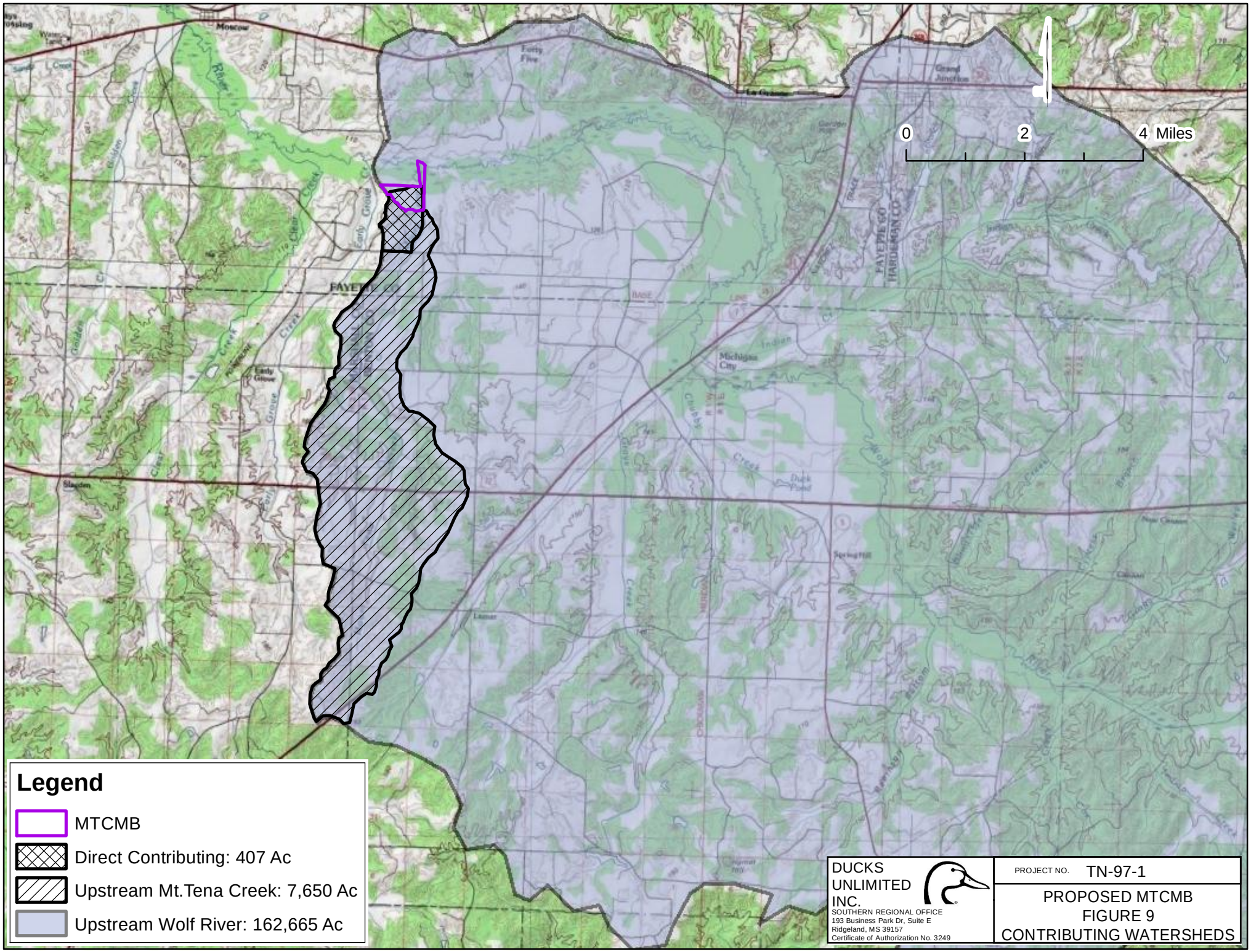
PROPOSED MTCMB
FIGURE 8
USDA SOILS MAP


0
2
4 Miles
Legend
MTCMB
Direct Contributing: 407 Ac
Upstream Mt.Tena Creek: 7,650 Ac
Upstream Wolf River: 162,665 Ac
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PROPOSED MTCMB
FIGURE 9
CONTRIBUTING WATERSHEDS